OPERATING INSTRUCTIONS



X-10™

Type 1F

HIGH SECURITY ELECTRONIC LOCK

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INTRODUCTION

The X-10™ uses sophisticated computer security and makes dialing much easier than that of traditional combination locks. The microprocessor in the lock recognizes a number as part of a combination when you change dialing direction. (See the section on Dialing the X-10.)

Note: *The lock is shipped preset to operate in the Single Combination Mode with a Default Factory Combination of 50-25-50.*

The 8-digit lock serial number is located on a removable sticker on the lock case (See Figure 1.) Which is designed for the security professional in charge of this lock to peel off and place on the proper form. Since you may need the serial number of the lock to reset it if the combination is lost or forgotten and the door is open, it is important that you keep a record of the lock serial number in a secure place.



Figure 1 - Serial Number Label

DIALING THE X-10

DIALING METHODS

The user should dial with full wrist turns. This helps the X-10 distinguish between human and robotic dialers.

Note: *If an incorrect combination is dialed or if the elapsed combination dialing time is less than 10 seconds, a lightning bolt will appear when you dial right to retract the bolt.*

Note: *The viewing angle of the LCD is restricted from either side as a security feature of the lock. This feature restricts viewing of combination dialing by the casual observer.*

TO POWER THE LOCK

You should dial to the left (Counter-clockwise) to "power" the lock unless otherwise instructed for a specific operation. It usually requires 5-10 turns of the dial to generate sufficient power for lock operations. The lock is considered to be "powered" as soon as a number, letter or symbol appears on the display.

When you continue to dial left and if the number of consecutive unsuccessful attempts is three or more, the unsuccessful attempts count will be displayed along with a lightning bolt. You must slow down or stop dialing to pause and view the count. The count will disappear when you dial left to resume operations or when the lock powers down.

DIALING A COMBINATION

The X-10 recognizes a number as being part of a combination when you stop on that number and then reverse dialing directions. When dialing a combination, you will dial left for the 1st two digits of the combination, dial right for the second two digits, and then dial left again for the last two digits. When dialing to the left, the numbers will increase as you dial. When dialing to the right, the numbers will decrease.

Note: *If at any time the dial remains stationary for more than 40 seconds, the lock will power down (LCD will go blank), requiring the operator to redial the entire combination.*

Once the combination has been dialed correctly, you must dial briskly to the right to get an OP (OPen right) display and to retract the bolt.

If You Pass Your Target Number When Dialing:

Example A: Target Number = 25.

If you pass your target number by 4 or more, continue dialing until you reach the target number again.

Example B: Target Number = 25.

If you pass the target number by no more than 3 numbers, you may continue dialing until you reach the target number as in Example A.

An **alternative method** is to reverse direction **slowly** and the display will "jump back" 4 numbers. Then you should dial **slowly** in the original dialing direction until you reach the correct number.

Redial Entire Combination If:

A. The screen goes blank before the lock bolt is retracted.

B. A lightning bolt is displayed.

Caution: *An X-10 lock will initiate a timed lockout of 3 minutes when ten consecutive wrong combinations have been dialed. Each additional unsuccessful attempt to open the lock will initiate another timed lockout. If the number of consecutive unsuccessful attempts reaches fifteen, the timed lockout increases to 4 minutes. The lockout period is only timed while the lock is powered. To keep the lock powered until the timed lockout has expired, turn the dial every 30 seconds. A successful opening resets the error count.*

During a timed lockout, the lightning bolt will flash. Once the timed lockout is complete, a solid lightning bolt will appear. Turn the dial and proceed to open the lock with the correct combination.

OPEN AND CLOSE THE X-10 (Factory Combination)

If you have not read the section on "Dialing the X-10", it is important that you do so before proceeding.

Note: *The lock is shipped preset to operate in the Single Combination Mode with a Default Factory Combination of 50-25-50.*

TO OPEN THE LOCK (using the Factory Combination):

CW=ClockWise; CCW=CounterClockWise

1. Dial left (CCW) until lock is "powered". The lock is considered "powered" when numbers appear on the LCD display screen.

2. Continue dialing left (CCW) to the first number of the factory combination (50).Stop on 50 and pause briefly.

3. Dial right (CW) to the second number of the factory combination (25). Stop on 25 and pause briefly.

4. Dial left (CCW) to the third number in the factory combination (50). Stop on 50 and pause briefly.

5. Dial right (CW). After OP with a right arrow (OPen right) is displayed, continue dialing to the right to retract the lock bolt.

Note: *If at any time the dial remains stationary for more than 40 seconds, the lock will power down (LCD will go blank), requiring the operator to redial the entire combination.*

TO CLOSE THE LOCK:

1. Turn Dial to the left (CCW) a minimum of one complete revolution to extend the bolt and wait 3 seconds.
2. Turn Dial to the right (CW) a minimum of one complete revolution to ensure that it is locked.

Note: *The Dial should turn freely in either direction without catching or binding when the bolt is extended and the lock is closed.*

Practice opening and closing the lock several times with the preset factory combination before you set a new combination. When you feel comfortable opening the X-10 using the preset factory combination, you are ready to put the lock into operation.

Setting up the X-10 lock for operation involves selecting both the operating mode and the combination(s).

Note: *The lock is shipped preset to operate in the Single Combination Mode with a factory combination of 50-25-50.*

Before you can set a new combination, you must select and set a mode of operation. The X-10 has three modes of operation:

Single Combination Mode: The X-10 will open when one three-number combination is successfully dialed.

Dual Combination Mode: Two separate combinations are required to open the X-10. Either combination may be dialed first; however, the operator must begin entering the second combination within 40 seconds of completing the first combination.

Supervisory/Subordinate Mode or Super/Sub Mode: The Supervisory Combination controls access of the Subordinate Combination. The Supervisory Combination must be entered first to **U**n**L**ock (**UL**) the lock. Once the Supervisory Combination has been entered, the Subordinate Combination can be used to open the lock at any time during this "unlocked" state. The Supervisory Combination can be entered again to disable lock access - **L**ock **U**p (**LU**). In this state the Subordinate Combination will no longer open the lock.

SET OPERATING MODE AND CHANGE COMBINATIONS

Use the Change Key (See Figure 2.) provided with your X-10 to set the desired operating mode and combinations. If at any time during the process you see the Key and Lightning Bolt symbols displayed, stop the sequence and return to Step 4. If at any time after you start the change key process you see only a Lightning Bolt symbol displayed, stop the sequence, reinsert the change key, and return to Step 4.

Note: *The lock serial number may be used to complete this process if the current combination has been lost or forgotten and if you can gain access to the back of the lock. See next section "Using the Serial Number to Set Operating Mode and Combination."*

If you have not read the section on "Dialing the X-10" and "Opening the X-10 (Factory Combination)", it is important that you do so before proceeding.

Note: *Use the preset factory combination of 50-25-50 to open the lock the first time. If the container is already open, you may skip Step 1.*

1. Open the lock by dialing the current combination(s) and retracting the bolt. Then remove the container dust cover to gain access to the change key holes on the back of the lock.



Figure 2 - Change Key

2. Release the container locking bolts if necessary. (Different containers will have different release mechanisms.)
3. Insert the Change Key into the change key holes on the back of the lock. (See Figure 3.)
4. Dial **left** (CCW) until the Change Key appears in the upper right hand corner of the display.

Caution: *Release container locking bolts if necessary.*

5. Dial the current combination(s), example (50-25-50), as if to open the lock. If currently operating in Supervisory/ Subordinate mode, enter the Supervisor's combination first.
6. Dial **right** (CW) until the symbol SL (Select Mode) is displayed.
7. Now dial **left** (CCW) to select the mode of operation:
   01 — Single Combination Mode
   02 — Dual Combination Mode
   03 — Supervisory/Subordinate Mode
8. Stop on the desired number and pause briefly.
9. Dial right (CW). Based on the operating mode selected, set the new combination by following the instructions in the next sections.

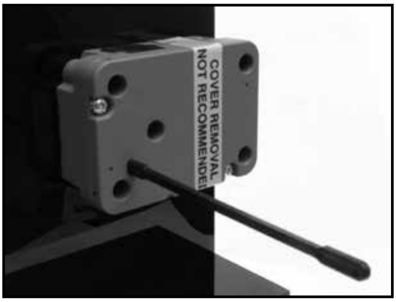


Figure 3 - Insert Change Key

Caution: *Do not use the "back up" method of dialing as described in Example "B" on Page 3 when dialing to select the mode.*

Using the Serial Number to Set Operating Mode and Combination

If you have lost or forgotten the current combination(s); you can use the serial number to select the operating mode and change the combination(s):

1. Force an error by entering an incorrect 6 digit combination. The lightning bolt will appear
2. While the lightning bolt is displayed, insert program key and turn dial left (CCW)until you see the "Key" symbol. (shown in Figure 3.)
3. Continue to…
   a. dial **left** (CCW) to the First two digits of the serial number
   b. dial **right** (CW) to the Second two digits of the serial number
   c. dial **left** (CCW) to the Third two digits of the serial number
   d. dial **right** (CW) to the Fourth two digits of the serial number
4. Now dial **left** (CWW) until the symbol SL (Select Mode) is displayed
5. Continue to dial **left** (CCW) to select the mode of operation:
   01 – Single Combination Mode
   02 – Dual Combination Mode
   03 – Supervisory/Subordinate Mode
6. Stop on the desired number and pause briefly.
7. Dial right (CW). Based on the operating mode selected, set the new combination by following the instructions in the next sections.

If Selection = 01, Single Combination Mode:

1. Dial **right** (CW) until the symbol **EC** (**E**nter **C**ombination) appears.
2. Dial the **new combination** as if dialing a combination to open the lock; i.e., **left** (CCW) to dial the first number, **right** (CW) to dial the second number, **left** (CCW) to dial the third number.

   EXAMPLE: Set Combination to 30-60-90

   Dial **left** to the first number, **30**. Stop.

   Dial **right** to second number, **60**. Stop.

   Dial **left** to third number, **90**. Stop.
3. Dial **right** (CW) briskly. The new combination will be displayed two times, two digits at a time, followed by **PO** (**P**ull **O**ut Change Key).

Note: *If the correct combination is not displayed, you may pull out the change key and the lock will allow you to reset the combination.* ***You must pull out the change key while the display is still flashing****. When* ***EC*** *appears, insert the change key again and dial the desired combination.*

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4. Pull out the Change Key. The Change Key symbol will disappear and **CC** (**C**onfirm **C**ombination) will appear.
5. Dial the new combination once again for confirmation.
6. Dial **right** (CW). After **OP** with a right arrow (**OP**en right) is displayed, continue dialing to the right to retract the lock bolt. The new combination is now set.

If Selection = 02 or 03, Dual Combination or Super/Sub Mode:

In Dual Combination Mode: Either of the two combinations can be entered first and the combinations may be the same.

In Supervisory/Subordinate Mode: Supervisory Combination must be entered first, and the Supervisory and Subordinate Combinations cannot be the same combination.

1. Dial **right** (CW)until the symbol **C1** (enter **C**ombination **1**) appears.
2. Dial the **first new combination** (Supervisory Combination if operating in Super/Sub Mode) as if dialing a combination to open the lock; i.e., **left** (CCW) to dial the first number, **right** (CW) to dial the second number, **left** (CCW) to dial the third number.

   EXAMPLE: Set Combination to 30-60-90

   Dial **left** to the first number, **30**. Stop.
   Dial **right** to second number, **60**. Stop.
   Dial **left** to third number, **90**. Stop.
3. Dial **right** (CW) briskly. The new combination will be displayed two times, two digits at a time. Once the combination has been displayed, the symbol **C2** (Enter **C**ombination **2**) will appear.

Note: *If the correct combination is not displayed, you may pull out the Change Key and the lock will allow you to reset the combination.* **You must pull out the Change Key while the display is still flashing.** *When* **C1** *appears, insert the Change Key again and dial the desired combination.*

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4. Dial the **second new combination** (Subordinate Combination if operating in Super/Sub Mode) as if dialing a combination to open the lock; i.e., **left** (CCW) to dial the first number, **right** (CW) to dial the second number, **left** (CCW) to dial the third number.

   EXAMPLE: Set Combination to 25-50-75

   Dial **left** to the first number, **25**. Stop.

   Dial **right** to second number, **50**. Stop.

   Dial **left** to third number, **75**. Stop.

5. Dial **right** (CW) briskly. The new combination will be displayed two times, two digits at a time, followed by **PO** (**P**ull **O**ut Change Key).

Note: *If the correct combination is not displayed, you may pull out the change key and the lock will allow you to reset the combination.* ***You must pull out the change key while the display is still flashing.*** *When* ***C2*** *appears, insert the change key again and dial the desired combination.*

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6. Pull out the Change Key. The Change Key symbol will disappear.
   A.) Dual Mode, confirmation is prompt is "C1" followed by "C2."
   B.) Super/Sub Mode, confirmation prompt is "CC" followed by "C2."
7. Dial the **new combinations** once again for confirmation.

Note: *In Dual Combination Mode you may dial either combination first to confirm. In Super/Sub Mode you must dial the Supervisory combination first and the Subordinate Combination second as you did when first entering the combinations.*

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8. Dial **right** (CW). After **OP** with a right arrow (**OP**en right) is displayed, continue dialing to the right to retract the lock bolt.The new combinations have now been set.

Note: *If you misdial or do not properly finish the Change Key sequence in any way, the X-10 automatically reverts to the previous combination(s). The old combination(s) remain valid until the process is completed successfully.*

Caution: *After you have confirmed the new combination(s), test dial the combination(s)* ***before closing the door or container.***

IF YOU LOCK THE CHANGE KEY IN THE SAFE

If the door of your container is shut and the X-10 is accidentally locked with the Change Key still inserted in the back of the lock, you can recover with the following procedure.

1. Allow the lock to power down. (After 40 seconds, the display will go blank).
2. Dial **right** (CW) until lock is "powered" and the number of successful openings will flash.

Caution: *Do not continue to dial right once you see the flashing numbers on the display.*

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3. While flashing, turn the dial left (CCW) and enter the previous valid combination just as you would to open the lock ; i.e., **left** (CCW) to dial the first number, **right** (CW) to dial the second number, **left** (CCW) to dial the third number.
4. Dial **right** (CW). After **OP** with a right arrow (**OP**en right) is displayed, continue dialing to the right to retract the lock bolt.

You may now restart the procedure to Set the Operating Mode and Change Combination(s).

Note: *You cannot use the serial number in place of the combination for this procedure. The combination must be known.*

If you have not read the section on “Dialing the X-10”, it is important that you do so before proceeding.

SINGLE COMBINATION MODE

In this mode the X-10 functions much like a standard combination lock. It will open any time the three-number combination is correctly dialed.

1. Dial **left** (CCW) until lock is “powered”.
2. Dial the **combination** in the correct manner to open the lock; i.e., **left** (CCW) to dial the first number, **right** (CW) to dial the second number, **left** (CCW) to dial the third number.

   EXAMPLE: Combination = 30-60-90

   Dial **left** to the first number, **30**. Stop.

   Dial **right** to second number, **60**. Stop.

   Dial **left** to third number, **90**. Stop.
3. Dial **right** (CW). After **OP** with a right arrow (**OP**en right) is displayed, continue dialing to the right to retract the lock bolt.

Note: *If at any time the dial remains stationary for more than 40 seconds, the lock will reset (LCD will go blank) requiring the operator to redial the entire combination.*

DUAL COMBINATION MODE

In this mode, two combinations must be correctly and consecutively entered to open the lock. Either combination may be entered first; however, **the second combination must be started within 40 seconds after the first combination is completed.**

First Operator:

1. Dial left (CCW) until lock is “powered”.
2. Dial the first combination in the correct manner to open the lock; i.e., left (CCW) to dial the first number, right (CW) to dial the second number, left (CCW) to dial the third number.

   EXAMPLE: Combination = 25-50-75

   Dial **left** to first number, 25. Stop.
   Dial **right** to second number, 50. Stop.
   Dial **left** to third number, 75. Stop.
3. Dial to the **right** (CW) until **C2** (enter **C**ombination **2**) is displayed.

Second Operator:

4. Dial the second combination in the correct manner to open the lock; i.e., left (CCW) to dial the first number, right (CW) to dial the second number, left (CCW) to dial the third number.

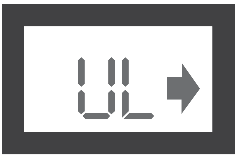
   EXAMPLE: Combination = 30-60-90

   Dial **left** to first number, 30. Stop.
   Dial **right** to second number, 60. Stop.
   Dial **left** to third number, 90. Stop.

5. Dial **right** (CW). After **OP** with a right arrow (**OP**en right) is displayed, continue dialing to the right to retract the lock bolt.

Note: *If at any time the dial remains stationary for more than 40 seconds, the computer will reset (LCD will go blank) requiring the operator to redial the entire combination.*

SUPERVISORY/SUBORDINATE MODE



In this mode, two combinations must be correctly dialed to open the lock. However, it is different from Dual Mode because the Supervisory Combination must only be dialed once to UnLock (UL) the lock. Once the Supervisory Combination has been entered, the Subordinate Combination can be used to open the lock at any time during this "unlocked" state.

Whenever the Supervisory Combination is redialed, the lock will display LU (Locked Up), and the Subordinate Combination will no longer open the lock.

To UnLock (UL)

Supervisory Operator:

1. Dial **left** (CCW) until lock is "powered".
2. Dial the **Supervisory Combination** as if dialing a combination to open the lock; i.e., **left** (CCW) to dial the first number, **right** (CW) to dial the second number, **left** (CCW) to dial the third number.
   EXAMPLE: Combination = 25-50-75
      Dial **left** to first number, 25. Stop.
      Dial **right** to second number, 50. Stop.
      Dial **left** to third number, 75. Stop.
3. Dial **right** (CW). **UL** (**U**n**L**ocked) is displayed indicating that the Subordinate Operator can now open the lock using only the Subordinate Combination. The X-10 will now operate as if it were in a single combination mode.

To Open the Lock

Subordinate Operator:

1. Dial **left** (CCW) until lock is "powered".
2. Dial the Subordinate Combination in the correct manner to open the lock; i.e., left (CCW) to dial the first number, right (CW) to dial the second number, left (CCW) to dial the third number.
   EXAMPLE: Combination = 30-60-90
      Dial **left** to the first number, 30. Stop.
      Dial **right** to second number, 60. Stop.
      Dial **left** to third number, 90. Stop.
3. Dial **right** (CW). After **OP** with a right arrow (**OP**en right) is displayed, continue dialing to the right to retract the lock bolt.

Note: *If at any time the dial remains stationary for more than 40 seconds, the lock will reset (LCD will go blank) requiring the operator to redial the entire combination.*

To Lock Up (LU)

Supervisory Operator:

1. Dial **left** (CCW) until lock is "powered".
2. Dial the Supervisory Combination as if dialing a combination to open the lock; i.e., **left** (CCW) to dial the first number, right (CW) to dial the second number, **left** (CCW) to dial the third number.
   EXAMPLE: Combination = 25-50-75
   Dial **left** to first number, 25. Stop.
   Dial **right** to second number, 50. Stop.
   Dial **left** to third number, 75. Stop.



3. Dial **right** (CW). LU (Locked Up) will be displayed indicating the lock cannot be opened. The Subordinate Combination will not open the lock again until the Supervisory Combination is redialed to UnLock (UL) the lock once again.

CORRECT METHOD OF CLOSING/RELOCKING CONTAINER

1. Close the container door.
2. Turn Dial to the **left** (CCW) a minimum of one complete revolution to extend the bolt and wait 3 seconds.
3. Turn Dial to the **right** (CW) a minimum of one complete revolution to ensure that it is locked.

Note: *The Dial should turn freely in either direction without catching or binding when the bolt is extended and the container is locked.*

AUDIT FEATURES AND FIRMWARE LEVEL OF THE LOCK

The X-10 lock tracks the number of successful openings for the lifetime of the lock; It tracks the number of consecutive unsuccessful attempts, it will alert you upon lock power up if there have been 3 or more consecutive unsuccessful attempts to open the lock and it will show the Firmware Level and Date. The lock bolt must be extended and the lock allowed to power down prior to obtaining an audit count of any type.

TO CHECK THE NUMBER OF SUCCESSFUL OPENINGS

The number of successful openings is a four digit number that will be displayed two digits at a time. The lock bolt must be extended before starting the operation.

1. Allow the lock to power down. (After 40 seconds, the display will go blank).
2. Dial **continuously** to the **right** (CW) until the LCD display alternately flashes two pairs of numbers. The number with the arrow flashing left represents the first two numbers of the successful openings count. The number with the arrow flashing right represents the last two numbers in the successful openings count.
   Example: A display showing 00 (arrow left) and 15 (arrow right) means the lock has been successfully opened a total of 0015 times.

The number of successful openings will reflect the total number of times the lock has been opened since it was manufactured. When the lock has been opened 9,999 times, the next time that the lock is opened the count will begin again at 0 and continue to increment.

TO CHECK THE NUMBER OF UNSUCCESSFUL ATTEMPTS

The X-10 keeps a record of the number of unsuccessful attempts to open the lock. **This count will only be displayed when there have been three or more consecutive unsuccessful attempts.** The lock bolt must be extended before starting the operation.

1. Allow the lock to power down. (After 40 seconds, the display will go blank).
2. Dial **left** (CCW) until lock is “powered”. If 3 or more consecutive unsuccessful attempts have occurred, a lightning bolt along with the two digit count will be displayed.

Note: *An X-10 lock will register an error condition and will initiate a timed lockout of 3 minutes when ten consecutive unsuccessful attempts to open the lock are made. Each additional unsuccessful attempt will initiate another timed lockout. If the number of consecutive unsuccessful attempts reaches fifteen, the timed lockout increases to 4 minutes. The lockout period is only timed while the lock is powered. The unsuccessful attempts count resets to 0 only when the lock is successfully opened. If the number of unsuccessful attempts exceeds 99, the count will remain at 99 until reset.*

Once the count is displayed, you may continue dialing left to start dialing a combination.

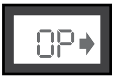
TO CHECK THE FIRMWARE LEVEL AND DATE

1. Allow the lock to power down. (After 40 seconds, the display will go blank).
2. Once the audit count is displayed, you may continue to Dial to the **Right** (CW) to determine the **Firmware Leve**l and **Date**.
   FL prompt (Firmware Level) will be followed by the six-digit firmware identification.
   Example: 00.01.18
   Continue dialing to the **Right** (CW)
   Fd prompt (Firmware Date) will be followed by the six-digit firmware date.
   Example: 05.07.12

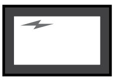
After the firmware level and date has been determined; you may dial to the Left (CCW) to start dialing a combination or let the lock power down.



Blank Display
Lock is powered down



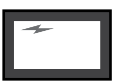
OP
Open Right



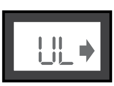
Lightning Bolt
Incorrect Combination Dialed



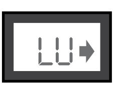
Lightning Bolt with Error Count
Incorrect Combination Dialed xx times. (The error count is only displayed when there have been 3 or more consecutive unsuccessful attempts.)



Flashing Lighting Bolts Lock in Penalty Mode. (Timed Lock Out)



UL
Unlocked



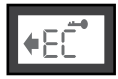
LU
Lock Up



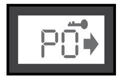
Key
Change Key Symbol (The Change Key has been inserted and the lock is in Change Combination Mode.)



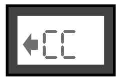
SL
Select Mode of Operation



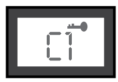
EC
Enter Change Combination



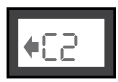
PO
Pull Out Change Key



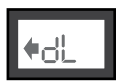
CC
Confirm **C**ombination or Combination(s)



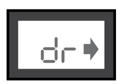
C1
Enter first **C**ombination



C2
Enter second **C**ombination



Low Power
Dial to the left faster



Low Power
Dial to the right faster



Firmware level



Firmware Date

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